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DISTRICT OF UTAH

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IN THE UNITED STATES DISTRICT COURT

DISTRICT OF UTAH, CENTRAL DIVISION

UNITED STATES OF AMERICA,	:	Case No. 2:17 CR 444
Plaintiff,	:	FIRST SUPERSEDING
	:	INDICTMENT
v.	:	
MINH HOANG,	:	
Defendant.	:	Viol. 18 U.S.C. § 1832,
	:	THEFT OF TRADE SECRETS
	:	

The Grand Jury charges:

INTRODUCTION AND PREDICATE FACTS

At all times relevant to this Indictment:

Becton, Dickinson and Company

1. Becton, Dickinson and Company (hereinafter, "BD") is a medical technology company headquartered in Franklin Lakes, New Jersey that serves healthcare

institutions, life science researchers, clinical laboratories, and the general public. BD manufactures and sells various medical supplies, devices, equipment and products. BD employs approximately 40,000 associates and maintains offices in approximately 50 countries worldwide.

2. BD maintains a manufacturing facility in Sandy, Utah (the “Sandy Facility”) in which BD employs over 1,000 associates and manufactures several BD products, including but not limited to, peripheral intravenous (IV) catheters, IV accessories, and surgical scrubs products.

BD’s Efforts to Protect Its Trade Secrets

3. It is critical to BD's success that its research and development for current and future products remain secret. BD’s competitive position rests on continually enhancing product development and on a strong and consistent research and development approach founded on confidentiality and protection of intellectual property. BD's competitors could benefit greatly from its secret knowledge.

4. The United States has an interest in protecting the proprietary information of U.S. businesses like BD in order to maintain its industrial and economic edge and thus safeguard national security.

5. In order to protect its trade secrets and intellectual property, BD employs several precautions, including the following:

- a. BD requires employees to sign, as a condition of their employment, an agreement to refrain from disclosing any confidential information to third parties and from using any such information for personal purposes. BD requires that its employees agree that they will protect BD's trade secrets, and that they will assign to BD any rights in any invention or research conducted or developed while employed at BD.
- b. BD requires employees to participate in annual security and confidentiality training.
- c. BD restricts physical access to its facilities and requires visitors to register with security and obtain authorization from BD personnel to enter its facilities.
- d. BD restricts access to its computer systems by maintaining advanced computer security systems and requiring the entry of a user name and password to gain access to BD's electronic system containing trade secrets, confidential, and proprietary information.

- e. BD maintains a secure document management system, which serves as the secure repository for BD's manufacturing, production, and development process documents, including documents containing or pertaining to BD's trade secrets.
- f. BD allows employees to access BD's computer system while off-site but only through BD's virtual private network ("VPN"), which uses encryption, security software and other security devices to ensure that only authorized users can access BD's network remotely.
- g. To the extent that confidential information exists in written paper form, BD keeps such writings in secured areas with limited access.
- h. BD has in place electronic systems that monitor activity such as the downloading of files and information from its computers to portable devices. One of these security measures, a Data Loss Prevention application, is installed on BD assets, including but not limited to laptops. The Data Loss Prevention application enables BD to develop a report of the identity of BD employees who electronically copy information to external storage devices, the date on which it occurred, as well as other pertinent information. BD's Information Security Department reviews the Data Loss Prevention log files, in an effort to determine whether BD employees are

downloading or otherwise transferring BD trade secrets or confidential information.

BD's Trade Secrets

6. BD has developed and owns the following trade secrets, among others:

a. **BD Prototype and Business Plans (the "BD Business Plan")**

Related to Certain Needleless IV Connector Products ("Product-1"). BD developed needleless products used to connect or cap intravenous catheter tubing. From 2013 to 2014, BD planned to develop a new needleless connector cap product ("Product-1"), to improve upon and refine previously patented technology. BD's employee, Defendant Minh Hoang, worked on developing a prototype of Product-1 (the "BD Prototype").

b. **Foil Pouch for BD Alcohol Swabs:** BD developed a laminated foil pouch that retains liquid antiseptics, which BD used for packaging its alcohol swabs. The composition of materials related to the laminated foil used to make the pouch constituted a BD trade secret.

c. **BD E-Z Scrub™:** BD E-Z Scrub™ was an anti-microbial skin cleansing product line used in the acute care setting. BD E-Z Scrub™ products offered a wide range of antiseptic formulations specifically designed to enhance performance while reducing irritation to the patient's skin. The BD E-Z Scrub™ product line included, but

was not limited to, BD E-Z Scrub™ Preoperative Surgical Scrub Brushes and the BD E-Z Scrub™ Antiseptic Foam Dispenser System. The ingredients, formulations, manufacturing formulas, development programs, development methods, and test results related to BD E-Z Scrub™ products constituted BD trade secrets.

d. **BD's Market Research:** BD's confidential market research results from multi-millions of dollars of market analysis about the markets (geographic markets and customer markets) where BD could sell its products, including the analysis of potential markets for certain projects related to its Healthcare Acquired Infections Initiative and for certain connector devices for intravenous tubing, as well as past performance of its products and licensed technologies. Such market research also includes confidential information as to markets where it would not be economically viable to conduct business, and such negative market research also constitutes a trade secret.

The Defendant Minh Hoang

7. Minh Quang Hoang (hereinafter, "Hoang") is an individual currently residing in Sandy, Utah. Hoang was employed by BD as a research and development (R&D) Staff Engineer from 1988 until BD terminated his employment on September 15, 2015.

8. As a Staff Engineer, Hoang was primarily responsible for research and development of BD products and technologies licensed by BD. Specifically, Hoang was responsible for research, development and enhancement of BD's antiseptic products related to surgical preparation and intravenous catheters, including, among others, BD's needleless connector caps.

9. As an R&D Staff Engineer, Hoang had access to paper, computer and other files containing BD trade secrets, including but not limited to, formulations, designs, specifications, blueprints, equipment, raw materials, manufacturing plans, suppliers information, production processes, and customer lists for many projects and technologies. During his employment at BD, Hoang was also exposed to BD's confidential information, development strategies, and long term plans.

10. At the commencement of his employment with BD defendant Hoang signed an "Employee Agreement." By the terms of the agreement, defendant Hoang acknowledged and agreed that any confidential information to which he had access was the sole and exclusive property of BD and would not be used or disclosed to others without BD's consent. Defendant Hoang further agreed that all inventions and innovations he developed while under BD's employ would be property of BD. He also agreed to comply with all of BD's policies, including the Trade Secret Policy and Code of Conduct. The Trade Secret Policy provides that BD employees may disclose BD

Trade Secrets outside BD only under the protection of a confidential disclosure agreement (“CDA”) approved by the BD Law Group and signed by the recipient of the BD trade secret. The Trade Secret Policy also states that “Every BD associate with access to BD trade secrets shall comply with this Policy.” Hoang also participated in periodic employee trainings about confidentiality and security.

11. At some point, Hoang became dissatisfied with his employment at BD. He attempted to arrange other employment and represented to his colleagues that he intended to “retire” from BD during calendar year 2016.

Other Relevant Entities

12. Company-A is a pharmaceutical and medical device distributor located in Illinois.

13. Company-B is a contract development, manufacturing, and packaging company located in Illinois.

14. Individual-1 is a principal of Company-A and Company-B as well as a managing member of Company-B.

15. Company-C is a medical services company formed by Hoang to compete with BD.

16. Company-M is a custom manufacturer of medical and electronic devices and components headquartered in Shenzhen, China.

The Defendant's Theft of BD Trade Secrets

17. Through its security procedures, BD learned that Hoang had secretly, without authorization and in violation of company policy and his legal and contractual obligations, downloaded and taken from BD tens of thousands of computer files that contained BD's trade secrets. BD determined that approximately 90 percent of the downloads were completed at Hoang's residence.

18. Hoang frequently accessed BD documents containing trade secrets and copied the documents into new documents, removing any references to BD. He then e-mailed the new documents from his BD e-mail address to his personal e-mail account, and then from his personal e-mail account to a third parties.

BD's Trade Secrets Related to Development of Product-1

19. Hoang developed a plan to use BD's confidential business plans, product specifications, and market research for the benefit of Company-C, which he formed while still employed with BD, and for the benefit of another company, Company-A, and its principal, Individual-1. Specifically, Hoang planned to use BD's confidential business plans and specifications to help Company-A develop Product-1 and to help Company-A

develop a business strategy using BD's confidential plans and research in order to secure financing for Company-A and grow Company-A in competition with BD.

20. In furtherance of this plan, on and about September 5 and September 6, 2014, Hoang took a prototype (the BD Prototype) he developed while working for BD and sent it by mail to Company-M and Individual-1 and Company-A.

21. On September 11, 2013, Hoang stole BD trade secrets related to the laminated foil used to make the pouch for the packaging of BD Alcohol Swabs. He did so by taking a BD file containing the formulation and specifications used to create the laminated foil and pouch.

22. On the same date, Hoang stole BD trade secrets related to the specifications for the foam material used by BD to produce its needleless connector caps. He did so by taking a BD file identifying the foam material used in BD's needleless connector caps and containing the specifications for that material.

23. On the same date, Hoang stole BD trade secrets related to the specifications for a certain polymer and how BD used that polymer. He did so by taking a BD file identifying the polymer and the source for the polymer and the specifications used to create the polymer.

24. On September 11, 2013, Hoang e-mailed these converted trade secrets from his BD e-mail account to his personal e-mail account, and then e-mailed the stolen information from his personal e-mail account to the President of Company-M and copied Individual-1 on the e-mail. In the email he also identified a new use for the materials, which also constitutes BD's trade secret.

25. During this same period, BD filed an application for a patent for new needleless connector cap technology, and a patent was awarded on July 23, 2010 under Patent Number 8,491,546. While the patent was pending, and after it was awarded, Defendant Hoang, while employed and compensated by BD, began developing Product-1, which included improvements and refinements on the patented technology that were not disclosed by or obvious from the patented technology.

26. Thereafter, Hoang encouraged Individual-1 to bid for a license of BD's newly patented needleless connector cap, and to represent to BD that Company-A, not BD's own employee Hoang, was developing new connector cap technology. Hoang further instructed Individual-1 to claim that Company-A and Company-B had already filed patent applications for the new cap technology to the U.S. Patent and Trademark Office, but not to disclose the number of new caps that Company-A and Company-B were developing.

27. BD, however, declined Company-A's bid for a license. Instead, BD indicated to Defendant Hoang its desire to develop the needleless connector cap technology itself and not to license it out to Company-A or anyone else. Defendant Hoang affirmatively acknowledged BD's desire to develop the cap itself, and that BD should not license the technology outside BD.

28. Undeterred and in direct contravention of his employer's instructions, Hoang continued to direct Individual-1, Company-A, and Company-M to develop Product-1, which was based not only upon BD's patent but also upon the stolen trade secret information, including (i) the confidential supplier specifications and applications he shared with Company-M, Individual-1, and Company-A in his September 11, 2013 email, (ii) the prototype he shared with Individual-1 and Company-A on or about September 5, 2014 and with Company-M on or about September 6, 2015, and (iii) the improvements and refinements to the patented technology that Hoang disclosed to Individual-1, Company-A, and Company-M through a series of communications from on or about August 14, 2014 to April 1, 2015.

29. Hoang, and others acting at his direction, attempted to secure for Company-A, instead of BD, the intellectual property rights in China for Product-1. Hoang indicated he believed BD or one of its competitors would pay Company-A six million dollars for the technology and intellectual property rights related to Product-1.

30. Hoang also continued to download and convert BD's trade secrets to assist in developing Product-1 and determining its market potential. For instance, on February 2, 2015, in anticipation of using Product-1 to compete with BD, Hoang shared with Individual-1 confidential sales reports for the fourth quarter of 2014 concerning a product for which BD received royalties.

31. On February 23, 2015, Hoang also e-mailed Individual-1 BD's confidential testing materials related to a sponge or foam pad relating to Product-1, which Hoang and the third parties intended to use for the development of Product-1.

32. After developing a prototype of Product-1, on or about March 24, 2015, Company-A placed an order with Company-M to produce Product-1 and to deliver it to Company-A.

33. On or about June 5, 2015, Company-A applied for a trademark for Product-1.

BD's Confidential Market Research and Plans, Including Plans and Research Related to Product-1

34. Furthermore, Hoang stole BD's confidential market research and business plans to use and share the information with Company-A's potential investors and lenders. Hoang and Individual-1 and Company-A intended to use financing from these investors

and lenders to develop Product-1 and otherwise expand Company-A's business by following the market strategies and plans set forth in BD's confidential documents.

35. On and about October 13, 2014 Hoang copied a business plan ("the "BD Business Plan") that contained BD's confidential market and product research concerning needleless connectors. Hoang e-mailed the converted information from his BD e-mail account to his personal e-mail account, and at some point he shared it with Company-A and Individual-1. Hoang prepared the Company-A Business Plan copying verbatim much of the data and information from the stolen BD business plan and shared it with Company-A and Individual-1, as well as Company-A's advisor and potential investors. The Company-A Business Plan specifically stated an intention to sell its products to BD or BD's competitors.

BD's Market Research Related to its Healthcare Acquired Infections Initiative

36. Additionally, Hoang stole from BD confidential information related to BD's Healthcare Acquired Infections ("HAI") Initiative, information which constituted a trade secret. The stolen trade secret information also appeared verbatim in the Company-A Business Plan, thereby establishing that Company-A would compete with BD in the same markets by using BD's confidential business plans.

37. Further, Hoang and the third parties to whom he had disclosed BD's trade secrets took additional steps to use BD's trade secrets in competition with BD, including:

(a) Company-A and Company-M entered into a manufacturing agreement under which Company-M would manufacture the new Product-1 but Company-A would retain all intellectual property rights in Product-1; (b) in November 2014, Hoang, without informing BD, traveled to China and met with Company-M for the purpose of engaging Company-M to produce Product-1, (c) Hoang misrepresented to the Embassy of China that Hoang's trip to China to visit Company-M in November 2014 was for the benefit of BD when, in fact, the trip was for the benefit of Company-A and to the detriment of BD, (d) Company-A and Individual-1 paid Hoang amounts totaling at least \$33,000 in consideration for Hoang traveling to China for the purpose of arranging for the manufacturing of Product-1; and (e) Company-A and Individual-1 made an investor presentation to third parties based upon BD's confidential marketing research and business plans, seeking a ninety million dollar investment.

38. Hoang, Individual-1, and Company-A converted BD's trade secrets as set forth above in an effort to compete with BD. The Company-A Business Plan states that the new devices developed by Company-A will be patented so that they can be licensed, with a five or six percent royalty, to "major medical device companies such as BD+CareFusion[.]"

Defendant Hoang Continued Downloading BD's Trade Secrets

39. From June to September 2015, Hoang accelerated his pattern of theft, downloading approximately 50,000 files to more than ten different removable media devices. Many of the files contained BD confidential information and trade secrets.

40. Hoang did so for the purpose of using these trade secrets for the benefit of Company-A, Company-B, or Company-C.

41. BD learned that Hoang stole files related to several BD products, including ingredient component materials, technical drawings, process and formulation technologies, manufacturing and development technologies, supplier information for both raw materials and manufacturing equipment, project plans, invention disclosures, and technical files detailing the development pathways and technical history of the products.

42. As part of its internal review, BD determined that Hoang had copied a significant amount of BD information to removable media storage devices. Beginning on or about the morning of July 17, 2015 and continuing through the evening of July 19, 2015, Hoang downloaded and copied approximately 18,500 files to a removable media storage device. The download included documents from folders titled "Drug development report" and "E-Z Scrub." Beginning on or about the morning of July 21,

2015 and continuing through July 23, 2015, Hoang performed another download of BD documents, copying approximately 23,500 files to a removable storage device.

43. No legitimate reason existed for Hoang to possess and download such confidential BD information. Further, no legitimate reason existed for Hoang to download any of BD's proprietary information to external devices such as thumb drives, and BD specifically prohibited that conduct.

44. Much of the misappropriated information constitutes highly valuable trade secrets. Disclosure of those trade secrets to a competitor or the general public would cause great loss to BD. The trade secret information taken by Hoang would provide a roadmap to any skilled third party in the field to recreate BD's products and technologies, and deprive BD of its competitive advantage.

45. At a September 3, 2015 meeting, when confronted about his recent downloading activity, Hoang admitted to a small amount of inconsequential conduct but withheld information concerning his actions in taking thousands of computer files that represented the confidential and proprietary information and property and trade secrets of BD. Specifically, Hoang admitted only to downloading a couple of hundred BD documents to only one removable media storage device.

46. Additionally, during the September 3, 2015 meeting, Hoang admitted to e-mailing BD's supplier documents to his personal e-mail account, but Hoang falsely denied e-mailing BD technical or business documents to his personal e-mail account.

47. Hoang agreed to return the removable media storage device to BD's Sandy Facility, but never did.

COUNTS 1-11

**18 U.S.C. § 1832
(Theft of Trade Secrets)**

48. The Grand Jury realleges and incorporates by this reference the factual allegations in paragraphs 1 through 45 above.

From on or about a date unknown to the grand jury but in no event any later than September 11, 2013 and continuing until on or about September 15, 2015, in the Central Division of the District of Utah, and elsewhere,

MINH HOANG,

the defendant herein, with the intent to convert trade secrets related to products used in and intended for use in interstate and foreign commerce, namely trade secrets corresponding to products of Becton, Dickinson and Company ("BD"), and with the intent to convert said trade secrets to the economic benefit of anyone other than BD, and intending and knowing that the offense will injure BD, did knowingly steal, and without authorization appropriate, take, carry away, conceal, copy, duplicate, download, upload,

alter, transmit, communicate, and convey such information, and attempt to do the same, on or about each of the dates identified and with regard to products and trade secrets listed below, and did aid and abet others therein:

Count	Stolen Trade Secret	Relevant Product or License	Date(s) of Conversion	Third Party Provided with Secret
1	Designs and Improvements on Patented Needleless Connector Cap Technology	Needleless Connectors	August 14, 2014 through April 1, 2015	Individual-1 and Company-A and Company-M
2	Prototype of Patented Needleless Connector Cap Technology	Needleless Connectors	9/5/2014 and 9/6/2014	Individual-1 and Company-A and Company-M
3	BD Foil for Alcohol Swab Pouch	BD Alcohol Swabs	9/11/2013	Individual-1 and Company-A and Company-M
4	Foam material specifications	Needleless Connectors	9/11/2013	Individual-1 and Company-A and Company-M
5	Polyethylene polymer supplier and specifications	[Application in new product is a secret]	9/11/2013	Individual-1 and Company-A and Company-M
6	BD Business Plan	Needleless Connectors	~10/13/2014	Individual-1, and

Count	Stolen Trade Secret	Relevant Product or License	Date(s) of Conversion	Third Party Provided with Secret
				Company-A
7	BD's Strategic Plan concerning antimicrobial dressings outside of North America contained in an internal report titled "PIVC-BSI: An Overlooked Risk – Break the Chain of Infection via CHG Dressing for PIVCs"	Confidential business plan concerning antimicrobial dressings outside of North America	~10/13/2014	Individual-1 and Company-A
8	Confidential Market Research related to BD's platform for Healthcare-Acquired Infections (HAI)	Business plan concerning BD products, including use of BD's proprietary polymer	~10/13/2014	Individual-1 and Company-A
9	Market Research Conducted for BD: Chlorhexidine/Alcohol Product for Device Disinfectant – Evaluation of Market Potential	Confidential market research and business plan concerning chlorhexidine / alcohol pad	~10/13/2014	Individual-1 and Company-A
10	Fourth Quarter 2015 Sales Report regarding needleless connector caps	Needleless Connectors	2/2/2015	Individual-1 and Company-A
11	Zone Inhibition testing materials related to a needleless connector cap	Needleless Connectors	2/23/2015	Individual-1 and Company-A

All in violation of 18 U.S.C. §§ 2 and 1832(a)(1), (a)(2) and (a)(4).

NOTICE OF INTENT TO SEEK FORFEITURE

Pursuant to 18 U.S.C. § 2323, upon conviction of any offense in violation of 18

U.S.C. § 1832, the defendant shall forfeit to the United States of America: 1) any article, the making or trafficking of which is, prohibited under the offense; 2) any property used, or intended to be used, in any manner or part to commit or facilitate the commission of the offense; and 3) any property constituting or derived from any proceeds obtained directly or indirectly as a result of the commission of the offense. The property to be forfeited includes, but is not limited to, the following:

- The email account “hoangmqh@comcast.net”
- A money judgment equal to the total value of the property described above for each offense.

SUBSTITUTE ASSETS

If any of the above-described forfeitable property, as a result of any act or omission of the defendant,

- (1) cannot be located upon the exercise of due diligence;
- (2) has been transferred or sold to, or deposited with, a third person;
- (3) has been placed beyond the jurisdiction of the court;
- (4) has been substantially diminished in value; or
- (5) has been commingled with other property which cannot be divided without difficulty;

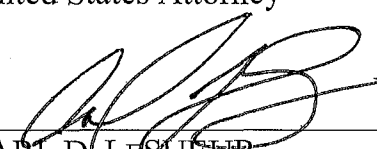
it is the intent of the United States, pursuant to 18 U.S.C. § 2323(b)(2)(A) and 21 U.S.C.


§ 853(p), to seek forfeiture of any other property of said defendant up to the value of the above-forfeitable property.

A TRUE BILL:

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FOREPERSON OF THE GRAND JURY

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